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Facilitating engagement and interaction in teamwork: an online tool

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Abstract

Teamwork is an essential transferable skill that all graduates need to develop, and will contribute positively to student's development as practitioners throughout their academic and clinical career. However, ensuring fair and transparent assessment of group work can be challenging when awarding individual marks. To address this we have developed and piloted an on-line facility for groups of dental students. This facility enables the recording of team meetings in real time, allowing easier monitoring of individual contributions and promoting reflective peer review by individuals in the group. Forty four second year dental students attended initial focus group meeting. Feedback on traditional teamwork modes of assessment were negative, with students disappointed that their mark may be lowered by other group members not taking the work seriously, or working at the last minute. The e-portfolio teamwork component was piloted and a second round of focus groups carried out (51 students). The e-portfolio component was engaged with by all students; with the 'up-load' facility and the area for sharing information being cited as useful. In conclusion, the e-portfolio component developed is a useful tool in allowing and encouraging reflection, evaluation and monitoring contribution.

Keywords: Team work, on-line community, Assessment

Introduction

Developing teamwork abilities of listening, questioning, persuading, participating, respecting, helping and sharing, are essential transferable skills that all undergraduates students need to develop. Both the General Medical and Dental Council's recognise the importance of teamwork and believe potential registrants should have the opportunity to develop in a team environment as early as possible in their undergraduate training and become reflective in their own abilities [1 2]. Ensuring fair and transparent assessment of group work, can also be challenging, especially when awarding individual marks. To address both these issues we have developed and piloted an on-line community for groups to record meetings and discussions in real-time, building on an already established e-Portfolio platform [3]. The platform allows and encourages students to be reflective about their input and involvement in the group. The platform also allows recording of meetings in real time resulting in easier monitoring of individual contributions and the opportunity for reflective peer review by individuals in the group. Another level of interaction was the engagement of later (clinical) stage student in the feedback process throughout the planning stages – to allow a feed forward mechanism in the overall team work process. The facility also provides an interface with Web peer assessment (WebPA) [4] to provide a formative quantified reflection on students' own and peer contributions.

The first summative assessment that year 1 dental students are exposed to within our 5 year programme, is a group poster exercise where by students produce one piece of work, that gains an overall group mark. Students have been allowed the opportunity to individually peer review their colleagues and also produce a group statement of contribution. Although this is a good example of how we expose our students to working professionally in a group early in their dental training, it has received some negative comments from external examiners, who worry about the fairness in the marking of a group exercise and also from the students who find it hard to reflect upon the contribution made by each group member.

Methods

The aim of this study was to collect fine-grained qualitative data that would provide insights into how students experience teamwork and reflect on the process of assessment of teamwork. Focus group discussions were chosen to allow students to collectively reflect on shared experiences [5]. Two third year undergraduate dental student interns, who had no prior relationship with the participants were recruited to carry out this study. Initially, four focus groups led by student interns were held with second year dental students ($n = 10-11$ per group). The focus of these sessions were to determine students' opinion of the current team work assessment procedures and also to gain input into the development of the new e-portfolio component, to ensure it was fit for purpose and user friendly. The group work e-portfolio community component was developed (Figure 1) and piloted in a year one undergraduate dental student summative group work assignment, which is held very early in Semester 1. A Second round of focus groups, comprising four session ($n = 10-13$ per group) were held after completion of the team work assignment. Students were asked about the developed e-portfolio component, about ease of use, usefulness and fairness of the marking. Thematic analysis [6], was employed on all focus group transcripts.

Results

In the first phase of the study forty four (56%) stage 2 students, comprising 24 female and 20 males, attended the focus groups. Thematic analysis uncovered two main themes, which were negative in nature, associated with the current way group work is assessed:

1. Team work: Students brought up issue of members not working as part of the team and not getting penalized
2. Transparent marking: Students felt the current system of a group mark (one mark per team) was unfair and reflected that the current use of peer marking should be included summatively

An example of feedback illustrating the latter point is: 'some people need to take it more seriously....by the end you have forgot what everyone does'

When posed with questions relating to the development of an e-portfolio components, students were generally very positive about the idea and welcomed it, with the focus being that everything is in one place, with a reflective area and an upload facility being the most important perceived aspects.

The on-line community was piloted with 71 first year students. All students engaged with the on-line community, although this was not a compulsory part of the assignment. In the second phase of focus groups, fifty one (72%; $n = 24$ female, $n = 27$ males) of year 1 students attended. Thematic analysis of qualitative feedback highlighted two main themes

1. Sharing and reflection: Students liked the 'up-load' facility and the area for sharing information. The reflective area enabled students to see how they and others had contributed to the team effort
2. Peer assessment: The use of WebPA marks contributing to the overall individual grade was encouraged

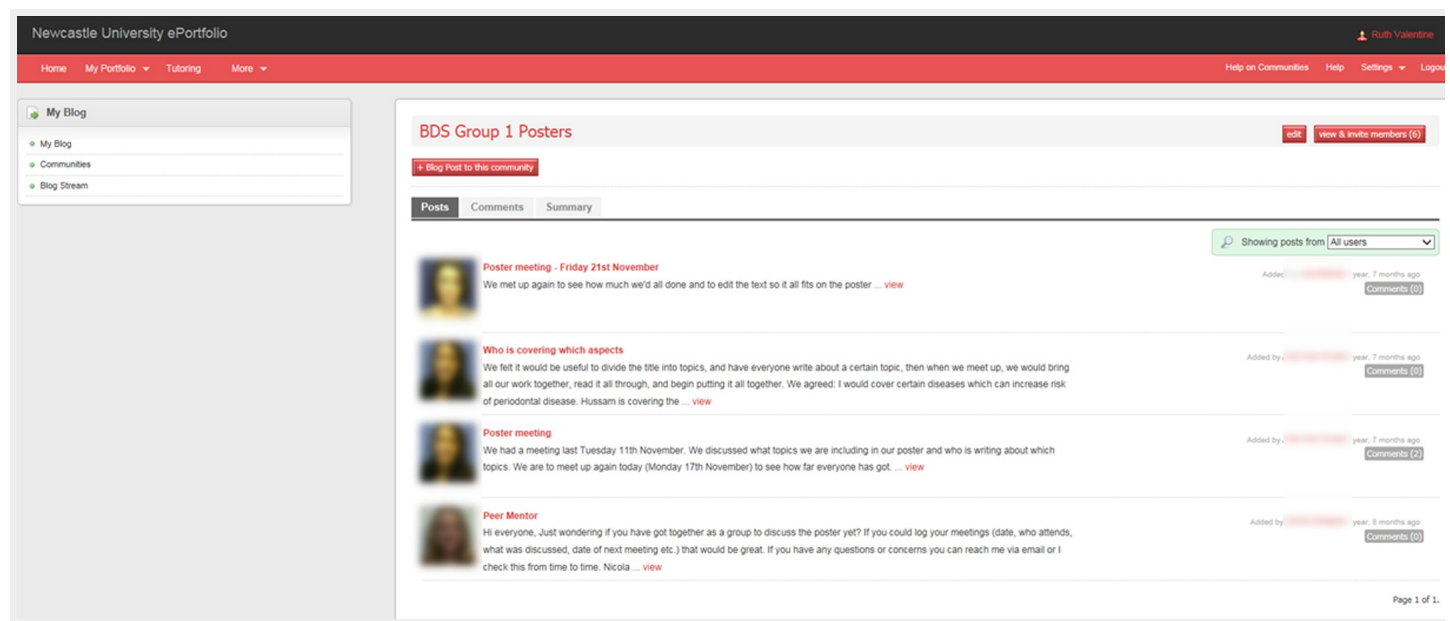
Examples of feedback about using the community 'Motivated us to make progress at every meeting to show what we had done' and [it was] 'useful for uploading files that everyone could access', however there were areas that could be improved and these focussed mainly on the technology with students commenting on the need to log in through a computer to access the system – 'Facebook, whatsapp – easier to use, check your phone more often.... quicker, can receive message on phones' 'Notifications when you get a message, hassle to log in every time and an App on the phone would be a lot better'

Discussion

Initial focus group meetings revealed negative attitudes in the old system, with students disappointed that their mark may be lowered by other group members not taking the work seriously, or working at the last minute. The timing of this particular assignment is early on in the students' academic career, and as such, they had not previously engaged with our e-portfolio system. Students appeared positive about the use of an all-in-one area, where information could be shared along with attendance and peer marks recorded. After piloting the on-line community, the component had been engaged with by all students, although this was not a compulsory part of the assignment, indicating that they could see the benefit of this system. Students in general liked the 'up-load' facility and the area for sharing information, but would prefer an application that was more compatible with mobile technology. Interestingly, when posed with WebPA marks contributing up to 20% of the overall individual grade, students wanted this mark to be incorporated summatively and would prefer a larger proportion weighted.

In conclusion, engagement and encouragement of students to work reflectively in a team environment from early on in their preclinical training will contribute to student's development as practioners throughout their academic and clinical journey. The e-portfolio component developed is a useful tool in allowing and encouraging reflection, evaluation and monitoring contribution.

Figure 1: Screenshot of the community set up on the e portfolio platform, with an area for students to record meetings and an area for peer mentors to engage in discussions.



Take Home Messages

- Teamwork is an essential transferable skill that all graduates need to develop, however, ensuring fair and transparent assessment of group work can be challenging when awarding individual marks. To address this we have developed and piloted an on-line facility for groups of dental students.
- The facility enables the recording of team meetings in real time, allowing easier monitoring of individual contributions and promoting reflective peer review by individuals in the group.
- The e-portfolio developed was engaged with by all students, although not a compulsory aspect of the assessment.
- The e-portfolio component developed is a useful tool in allowing and encouraging reflection, evaluation and monitoring contribution

Notes On Contributors

Nicola Gallagher is currently a fourth year Dental Student. She was involved in the research as a student intern. She facilitated the two-stage focus groups and was involved as a mentor throughout the assessment period.

Daniel Mall is currently a fourth year Dental Student. He was involved in the research as a student intern. He facilitated the two-stage focus groups and was involved as a mentor throughout the assessment period.

Simon Cotterill is the learning and Teaching Project Manager in the School of Medical Education, Newcastle University. His research interests are eLearning (technologies and pedagogy), particularly Learning Maps, ePortfolios, reflection and personal development planning. Simon was responsible for developing the communities section of the eportfolio.

Ruth A Valentine is a Senior Lecturer in the School of Dental Sciences, Newcastle University. She is also Admission Tutor. She is responsible for teaching, learning and assessment with pre-clinical dental students. She initiated the research project and received funding from the University Innovation Fund to carry out the project. She was responsible for devising the methodology, managing the student interns and collating the results and writing the paper.

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Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.